

Overview of Technical Skills and Competencies

Technical Skills and Competencies (TSCs)

TSC Category	TSC Name	TSC Description	Proficiency Levels						
			1	2	3	4	5	6	
Analysis	Conceptual Thinking	Analyse and synthesise information by identifying key issues, perceiving unseen patterns and trends and deducing connections between issues to develop relevant ideas and solutions			●	●	●		
	Critical Thinking	Examine, manage and connect issues and ideas from multiple perspectives to identify reasoning in a variety of fields with differing assumptions, contents and methods			●	●	●		
	Data Analysis and Interpretation	Extract meaningful patterns and insights from data to improve organisational performance and decision-making		●	●	●	●		
	Site Assessment and Analysis	Plan and execute assessments of landscape sites to evaluate suitability for landscape operations			●	●	●		
Arboriculture	Chainsaw Operations	Operate chainsaws for felling or pruning in horticulture or arboriculture works	●	●	●				
	Tree Assessments	Conduct comprehensive tree assessments to support decision making pertaining to development of new landscapes, maintenance of existing landscape sites, safety and tree conservation				●	●		
	Tree Climbing and Aerial Rescues	Access trees by climbing to carry out arboriculture works or aerial rescue in an emergency situation	●	●	●				
	Tree Conservation and Protection	Develop and implement tree conservation and protection programmes				●	●		
	Tree Health Management	Implement plans, procedures and practices to manage tree health in routine and contingency situations		●	●	●			
	Tree Pruning	Plan, manage and execute the pruning of trees for tree health, maintenance or aesthetic purposes	●	●	●	●			
	Tree Removal	Undertake felling of trees to clear area for new developments or remove diseased or decaying trees	●	●	●	●	●		
	Tree Transplantation	Undertake the transplantation of grown trees or large shrubs from original site to new receptor sites to facilitate new developments, modifications to existing developments or conservation		●	●	●	●		

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Business Management	Budgeting	Prepare organisational budgets to support short- and long-term business plans through forecasting, allocation and financial policy setting			●	●	●			
	Business Development	Identify new business opportunities to better meet the needs of existing markets and bring benefits to the organisation			●	●	●			
	Contract Preparation, Evaluation, Negotiation and Tendering	Manage contract creation, evaluation, negotiation, and tendering to maximise operation and financial performance of an organisation				●	●			
	Innovation Management	Manage organisation's ability to respond to internal and external opportunities by using creativity to introduce new ideas, processes and products			●	●	●			
	Inventory Control	Manage receipt, dispatch and storage of merchandise, and monitor and maintain stock control to oversee the purchase of stocks for production effectively		●	●	●				
	Learning and Development	Manage employees' learning and development activities to maximise employee' potential and capabilities to contribute to the organisation				●	●			
	Merchandise Buying	Design and implement merchandise buying plans according to market and consumer trends, merchandise ranges, stock levels and sources of supply			●	●				
	Project Management	Execute projects by managing stakeholder engagement, resources, budgets and resolving problems			●	●	●			
	Stakeholder Management	Manage stakeholder expectations and needs by aligning those with requirements and objectives of the organisation. This involves planning of actions to effectively communicate with, negotiate with and influence stakeholders		●	●	●	●			
	Strategy Planning	Develop organisational strategies and policies by analysing the impact of internal and external influencing factors and seeking consultation from relevant stakeholders				●	●			
	Vendor Management	Manage vendor relationships by ensuring performance as per contracts, operations within standards established by the organisation such as adherence to safety, security, and compliance standards			●	●	●			
	Workflow Digitalisation	Apply digitalisation to enhance efficiency and effectiveness of operational workflows, processes and practices				●	●			

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Design	Aesthetic and Design Sensibility	Imagine and develop novel, relevant and appropriate aesthetics to engage and evoke accurate and appropriate emotional and sensorial responses from target audiences			●	●	●		
	Building Information Modelling Application	Use Building Information Modelling (BIM) software to make design, engineering, project and operational information accurate, accessible and actionable for engineering projects			●	●	●		
	Cultural, Heritage and Socio-economic Sensitivity for Design	Develop appreciation and thorough understanding of cultural, heritage and social-economic aspects of landscape sites and their associated communities to reflect considerations of such sensitivities in design			●	●	●		
	Design Creation and Development	Utilise relevant design approaches for the conceptualisation, development and enhancement of design solutions			●	●	●		
	Design Sketching	Communicate and visualise ideas and designs in accurate form, perspective and proportion through drawing			●	●	●		
	Design Standards and Specification	Apply knowledge of relevant standards that govern the design requirements, and deliver design specifications according to the required standards			●	●	●		
	Design Thinking Practice	Manage design thinking methodologies and processes to solve specific challenges for the organisation, and guide stakeholders through the phases of inspiration, empathy, ideation and implementation			●	●	●		
	Digital and Physical Prototyping	Construct design concepts, either digitally or physically, to develop deeper understanding of the designs and test their usability and functionality			●	●	●		
	Form Giving	Giving ideas and/or designs tangible forms and aesthetics, with consideration for function, emotions, technology, culture and organisational values			●	●	●		
	Imagination and Exploration	Utilise imagination and design exploration techniques across multiple disciplines to envision better outcomes and develop possible and relevant solutions			●	●	●		
	Material Studies and Production Processes	Administer the study of the properties and applications of materials to facilitate production, construction, engineering and processing of materials into specific designs			●	●	●		
	Placemaking and Programming of Open Spaces	Adopt a multi-faceted approach to the planning, design and management of open spaces				●	●		
	Sustainable Landscape Design	Incorporate considerations for sustainability, safety and maintainability in the design of landscapes			●	●	●		
	Technical Drawing	Manage the composition of precise and detailed drawings that visually communicate how designs function, or are produced, to guide the construction			●	●	●		
Visual Communication	Design visual communication output to elicit emotional connections and responses from target audience			●	●	●			

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Environment	Biophilic Design	Design landscapes with the objective of increasing user engagement with nature				●	●	
	Ecology in Landscapes	Adopt principles of ecology in the design, implementation and management of landscapes				●	●	
	Environment Management in Landscape Operations	Develop and execute plans to manage the adverse impact of landscape operations on the environment		●	●	●		
	Microclimate in Landscape Design	Incorporate considerations for thermal comfort and microclimate in the planning and design of urban areas				●	●	
	Water Sensitive Urban Design	Incorporate considerations for optimal utilisation of natural water resources in the planning and design of urban areas				●	●	
Floristry	Flower Arrangement	Execute flower arrangements for various occasions		●	●	●		
	Flower Harvesting and Handling	Harvest flowers and foliage in a nursery for sale or use in a project		●	●	●		
Horticulture	Horticultural Chemical Usage	Manage the safe use of chemicals and biological agents for horticultural works		●	●	●		
	Horticultural Maintenance Programme	Establish scope, develop plans for, and implement horticultural maintenance programmes			●	●		
	Landscape Irrigation Management	Perform and manage efficient watering and/or irrigation activities for the growth of plants	●	●	●	●	●	
	Plant Health Management and Disease Control	Manage plant health through developing and implementing programmes aimed at meeting nutrition requirements, and remediating pests, diseases and invasive species	●	●	●	●	●	
	Plant Identification	Identify, classify and document plant species for a variety of horticultural purposes	●	●	●	●		
	Plant Pruning	Execute routine and contingency pruning of plants for the purpose of maintenance, aesthetics or mitigating defects, decays or diseases	●	●	●	●		
	Plant Selection for Landscape Development	Select plants and trees to meet the requirements of a landscape project			●	●	●	
	Soil and Media Assessment and Remediation	Identify, test and improve soil and media quality to meet planting requirements	●	●	●	●		
	Turf Maintenance	Assess, plan and execute maintenance of amenities or public turfs	●	●	●	●		
	Vegetation Planting	Plan, execute and manage the planting of vegetation for a range of horticultural purposes	●	●	●			

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Landscape Engineering	Automation of Landscape Operations	Adopt and incorporate automation technology within landscape operations to improve productivity, efficiency and effectiveness		●	●	●	●	
	Landscape Drainage Management	Manage drainage systems as part of landscape implementation and maintenance	●	●	●	●		
	Landscape Tools, Equipment and Machinery Management	Manage the safe and effective use of tools, equipment and machinery in landscape operations	●	●	●	●		
	Skyrise Greenery Design and Implementation	Design and install skyrise greenery systems in built-up areas			●	●	●	
	Skyrise Greenery Maintenance	Plan and execute the maintenance of skyrise greenery	●	●	●	●		
	Water Features Management	Manage water features as part of new or existing landscapes		●	●	●		
Landscape Implementation	Plants and Materials Procurement for Landscape Projects	Plan and execute the procurement of plants, trees and other materials for landscape projects			●	●		
Nursery Management	Display Creation and Management	Conceive, design and implement plant and merchandise displays to enhance their visibility and promote nursery sales	●	●	●	●		
	Nursery Operations Management	Manage business and operational performance aspects of a nursery			●	●	●	
	Plant Propagation and Production	Propagate plants using a variety of propagation means to support plant production activities	●	●	●	●		
Safety	Hazards and Risk Control, and Policy Management	Ensure a systematic and objective approach for hazards identification and risk assessment to effectively manage the hazards that may occur within the workplace		●	●	●		
	Incident and Accident Investigation	Investigate workplace safety and health incidents and accidents based on root cause analysis and identification of corrective actions to prevent recurrences		●	●	●	●	
	Work at Heights	Maintain Workplace Safety and Health (WSH) standards and practices when working at heights by establishing safety protocols and complying with regulatory and other Work at Height (WAH) and WSH requirements	●		●			
	Workplace Safety and Health Policy Development	Develop organisational workplace safety and health policies to ensure compliance with national regulations pertaining to the marine and offshore sector by applying knowledge of regulations and staying abreast of regulatory changes and practices				●	●	●

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General Descriptors for Technical Skills and Competencies (TSCs)

Level	Responsibility (Degree of supervision and accountability)	Autonomy (Degree of decision-making)	Complexity (Degree of difficulty of situations and tasks)	Knowledge and Abilities (Required to support work as described under Responsibility, Autonomy and Complexity)
6	Accountable for significant area of work, strategy or overall direction	Empower to chart direction and practices within and outside of work (including professional field/ community), to achieve/ exceed work results	Complex	<ul style="list-style-type: none"> • Synthesise knowledge issues in a field of work and the interface between different fields, and create new forms of knowledge • Employ advanced skills, to solve critical problems and formulate new structures, and/or to redefine existing knowledge or professional practice • Demonstrate exemplary ability to innovate, and formulate ideas and structures
5	Accountable for achieving assigned objectives, decisions made by self and others	Provide leadership to achieve desired work results; Manage resources, set milestones and drive work	Complex	<ul style="list-style-type: none"> • Evaluate factual and advanced conceptual knowledge within a field of work, involving critical understanding of theories and principles • Select and apply an advanced range of cognitive and technical skills, demonstrating mastery and innovation, to devise solutions to solve complex and unpredictable problems in a specialised field of work • Manage and drive complex work activities
4	Work under broad direction Hold accountability for performance of self and others	Exercise judgment; Adapt and influence to achieve work performance	Less routine	<ul style="list-style-type: none"> • Evaluate and develop factual and conceptual knowledge within a field of work • Select and apply a range of cognitive and technical skills to solve non-routine/ abstract problems • Manage work activities which may be unpredictable • Facilitate the implementation of innovation
3	Work under broad direction May hold some accountability for performance of others, in addition to self	Use discretion in identifying and responding to issues, work with others and contribute to work performance	Less routine	<ul style="list-style-type: none"> • Apply relevant procedural and conceptual knowledge, and skills to perform differentiated work activities and manage changes • Able to collaborate with others to identify value-adding opportunities
2	Work with some supervision Accountable for a broader set of tasks assigned	Use limited discretion in resolving issues or enquiries. Work without frequently looking to others for guidance	Routine	<ul style="list-style-type: none"> • Understand and apply factual and procedural knowledge in a field of work • Apply basic cognitive and technical skills to carry out defined tasks and to solve routine problems using simple procedures and tools • Present ideas and improve work
1	Work under direct supervision Accountable for tasks assigned	Minimal discretion required. Expected to seek guidance	Routine	<ul style="list-style-type: none"> • Recall factual and procedural knowledge • Apply basic skills to carry out defined tasks • Identify opportunities for minor adjustments to work tasks